Performance Monitoring in Higher Education

Connecticut

General Assembly

LEGISLATIVE
PROGRAM REVIEW
AND
INVESTIGATIONS
COMMITTEE

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CONNECTICUT GENERAL ASSEMBLY
LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE

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PERFORMANCE MONITORING IN HIGHER EDUCATION

LEGISLATIVE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE

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EXECUTIVE SUMMARY

The importance of performance monitoring within government agencies has been well documented in a number of writings on public administration. To make informed resource and policy decisions, public decision-makers must assess the need and quality of government services. It is often difficult to know the impact, efficiency, and cost effectiveness of government programs without systematically collecting and analyzing performance information. Increasingly, assessment is being used to clarify the role of education in society, define the goals and objectives, and allocate scarce resources.

As the worth of creating performance monitoring systems in higher education has become recognized across the country, three broad areas are generally accepted as the central components for outcome measurement -- faculty productivity, student achievement, and administrative efficiency. By developing measures that address each of these areas, policy-makers are provided with a systematic process to identify strengths and weaknesses of educational programs, introduce any necessary reforms, and evaluate success. In addition to using outcome measures in evaluating college departments and programs, assessment systems are designed for other uses including: determining strengths or weaknesses in the state's higher education system; targeting available resources; enforcing minimum standards of achievement; and reporting to the public on the "value" of educational investment.

The Legislative Program Review and Investigations Committee authorized a study of the development of performance monitoring systems in public higher education in February 1993. This report examines the basic principles and necessary components of a monitoring model. It also looks at efforts currently underway in the public higher education system to develop performance measurement systems in Connecticut and examines those operating in other states. The main focus of the review, however, was on the implementation of Public Act 93-201, which mandated the Department of Higher Education to develop institutional assessment systems to evaluate performance, as well as on earlier assessment efforts by the institutions and the Board of Higher Education.

In 1986, the Connecticut Board of Governors for Higher Education followed the national trend toward assessing institutions of higher education. It adopted a plan to develop procedures for assessing institutional effectiveness by identifying goals and objectives linked to educational mission, measuring achievement of the goals and objectives, and using the assessment results to further enhance teaching and learning.

In response to delays in the implementation of the assessment system by the board of governors, Public Act 93-201 was passed in the 1993 legislative session directing the higher education system to "implement a process of institutional assessment and continuous improvement based on goals, objectives, and measurable outcomes consistent with the mission of each institution."

The program review committee found that although performance monitoring systems are at varying stages of development among the constituent units, in general there have been serious delays in the establishment of a comprehensive performance monitoring system. Difficulty in defining quantitative outcome and output measures to be used, establishment of uniform definitions for the measures to ensure a common reporting format, consensus on the goals to be achieved, and questions on the usefulness of information, have all contributed to the lack of progress.

A major problem identified by the committee for establishment of performance measures is the absence of a statewide system capable of storing and readily accessing information. The committee found there was no systematic attempt by the Department of Higher Education to compile, analyze, or compare constituent unit assessment results, and search for reasons why one institution may fare better than another in the various assessment areas identified under the act.

There has also been a lack of effort to develop baseline output and outcome measures by which progress toward goals could be measured. It is difficult to know how programs could be improved or resources better allocated without this type of analysis being performed on an continual basis.

In order for any performance monitoring system to be successful, commitment must come from within each of the institutions and must be considered equitable by those evaluated under it. Presidents and other top administrators need to foster a climate that encourages faculty to support the use of assessment information. Feedback from both the higher education community and the various constituents interested in the services provided is an important element needed to construct and operate a performance measurement system.

Recommendations

The Board of Trustees for the University of Connecticut, the Connecticut State University System and the Community-Technical College System shall establish a permanent performance monitoring workgroup composed of administrators, faculty, and students to develop appropriate performance measures, including outcome, output, and efficiency and effectiveness ratios, based on quantifiable criteria in three areas -- student achievement, faculty productivity and administrative efficiency. The goal of the group shall be to produce a working model for the evaluation of student achievement, faculty productivity, and administrative efficiency as required by Public Act 93-201. The working evaluation model for each constituent unit shall be submitted to the Board of Higher Education for approval.

The Board of Trustees for each system shall submit quarterly reports to the commissioner of the Department of Higher Education and the Higher Education Coordinating Council, summarizing the progress towards

meeting the legislative goals and report annually to the Committee on Education and the Legislative Program Review and Investigations Committee of the General Assembly.

From the reports submitted by the Boards of Trustees, the commissioner of the Department of Higher Education, in conjunction with the Higher Education Coordinating Council, shall define a core set of performance measures, together with a common set of reporting standards, to construct performance measurement models. Upon the development of such measures, they shall be incorporated by the Office of Policy and Management into the measures developed pursuant to section 4-67m of the Connecticut General Statutes. The models shall allow the Department of Higher Education to systematically evaluate and compare the universities in the Connecticut State University system and the colleges within the Community-Technical College system. This information shall be annually compiled and reported annually and made available to the public.

INTRODUCTION

The Legislative Program Review and Investigations Committee authorized a study of the development of performance monitoring systems in public higher education in February 1993. This report examines the basic principles and necessary components of a monitoring model. It also looks at efforts currently underway in the public higher education system to develop performance measurement systems in Connecticut and examines those operating in other states. The main focus of the review, however, was on the implementation of Public Act 93-201, which mandated the Department of Higher Education to develop institutional assessment systems to evaluate performance, as well as on earlier assessment efforts by the institutions and the Board of Higher Education.

This report is divided into two chapters. The first chapter outlines the reasons for developing performance measurement systems and examines the type of measures that are used. Chapter One also profiles other states who have developed monitoring systems in their public higher education systems. In addition, a detailed description of the performance model used by the University of Connecticut is presented. Chapter Two outlines assessment efforts in the state since 1986 and reviews the current implementation status of Public Act 93-201. Findings and recommendations are also presented in this chapter.

Methodology. This study was based upon a variety of sources including a review of Connecticut statutes, agency documents and data provided by the Department of Higher Education, and interviews with department personnel. In addition, a literature search was conducted that provided information on assessment systems used in other states.

CHAPTER I

THE DEVELOPMENT OF PERFORMANCE INDICATORS: AN OVERVIEW

Introduction

The importance of performance monitoring within government agencies has been well documented in a number of public administration articles. The Government Accounting Standards Board (GASB) states that government financial reporting should provide information to assist users in: a) assessing accountability; and b) making economic, social, and political decisions.[1] Information about "service efforts and accomplishments", GASB's term for performance measures, is an essential element of accountability and is critical to the setting of program goals and objectives, planning activities, and allocating resources.

In order to make informed resource and policy decisions, public decision-makers must assess the need and quality of government services. It is often difficult to know the impact, efficiency, and cost effectiveness of government programs without systematically collecting and analyzing performance information to make such a determination. Performance monitoring is the only way to know how much service taxpayers are receiving, the quality of the service, and the cost. It may also be used to measure productivity, cost effectiveness, and impact.

Historically, higher education institutions have had a high degree of autonomy. Only a few states were involved in developing performance monitoring systems for public higher education institutions in the mid-1980s. However, by 1987, developing and implementing assessment measures had become a central issue in several states with policy makers demanding more accountability from higher education. By 1989, 27 states had assessment policies and another 10 were in various stages of developing them. Most state assessment policies resulted from legislative mandates or internal efforts by higher education coordinating and governing boards. Increasingly, assessment is being used as a process to clarify the role of education in society and then define the goals and objectives of providing education as well as allocate scarce resources.

Both external and internal forces were responsible for the establishment of assessment measures in public higher education. Public dissatisfaction with student performance had led to questioning the amount of resources dedicated to higher education. Educational officials and lawmakers sought to establish credibility by developing assessment measures for faculty productivity, student achievement, and administrative efficiency. Budget decisions were to be linked to accountability and performance measures.

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[1] The Governmental Accounting Standards Board, organized in 1984, establishes standards for reporting financial accounting and reporting information for state and local governmental entities which are recognized by the American Institute of Certified Public Accountants.

The other catalyst for change came from within educational institutions. Faculty workload is divided among three areas -- research, teaching, and public service. The amount of faculty time committed to research as compared to teaching students became controversial. In addition, educators believed the curriculum had become fragmented and there was little commonality and integration in the higher education system.

Assessment was to be used for creating standards for faculty and student competence and achievement. As the importance of creating performance measurement systems in higher education became recognized across the country, three broad areas became accepted as the core components for outcome measurement -- faculty productivity, student achievement, and administrative efficiency. By developing measures that address each of these areas, policy-makers are provided with a systematic process to identify strengths and weaknesses of educational programs, introduce any necessary reforms, and evaluate success.

Although lawmakers are mandating the creation of performance systems, most states have given higher education officials flexibility in developing these systems. Assessment results are primarily used within college departments and programs, though some states have used assessment results for a variety of other purposes including:

- determining strengths or weaknesses in the state's higher education system;
- targeting available resources;
- enforcing minimum standards of achievement; and
- reporting to the public on "return on educational investment."

Before examining the current efforts in public institutions for higher education in Connecticut, the basic elements of a performance monitoring system are presented.

Basic Principles

The Auditor General of Canada observed that "the concept [of performance monitoring] is simple - objectives, results, and resources should all be linked. The application is difficult."[2] Anyone involved with the development of performance measures can attest to this statement. However, there are generally accepted parameters that can be applied to any performance monitoring system.

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[2] Allen Schick, "Budgeting for Results: Recent Developments in Five Industrialized Countries", *Public Administration Review*, Volume 50, No. 1, January/February 1990, page 26.

The Government Accounting Standards Board identified five types of performance indicators that are essential to any performance monitoring system. The process is also outlined in Figure 1. The five are:

- **Input indicators:** These indicators are designed to report the amount of resources, either financial or other (such as number of faculty, classrooms, level of instructional expenditures, etc.), that have been used for a specific service or program. They are frequently part of the budget document an agency submits for approval. Input indicators can be of two types:

  Dollar cost of resources during a given period in either current dollars or in constant dollars, or measures such as per-capita or per household costs.

  Non-monetary amounts of resources expended, such as staff time consumed, time to process, or employee hours worked.

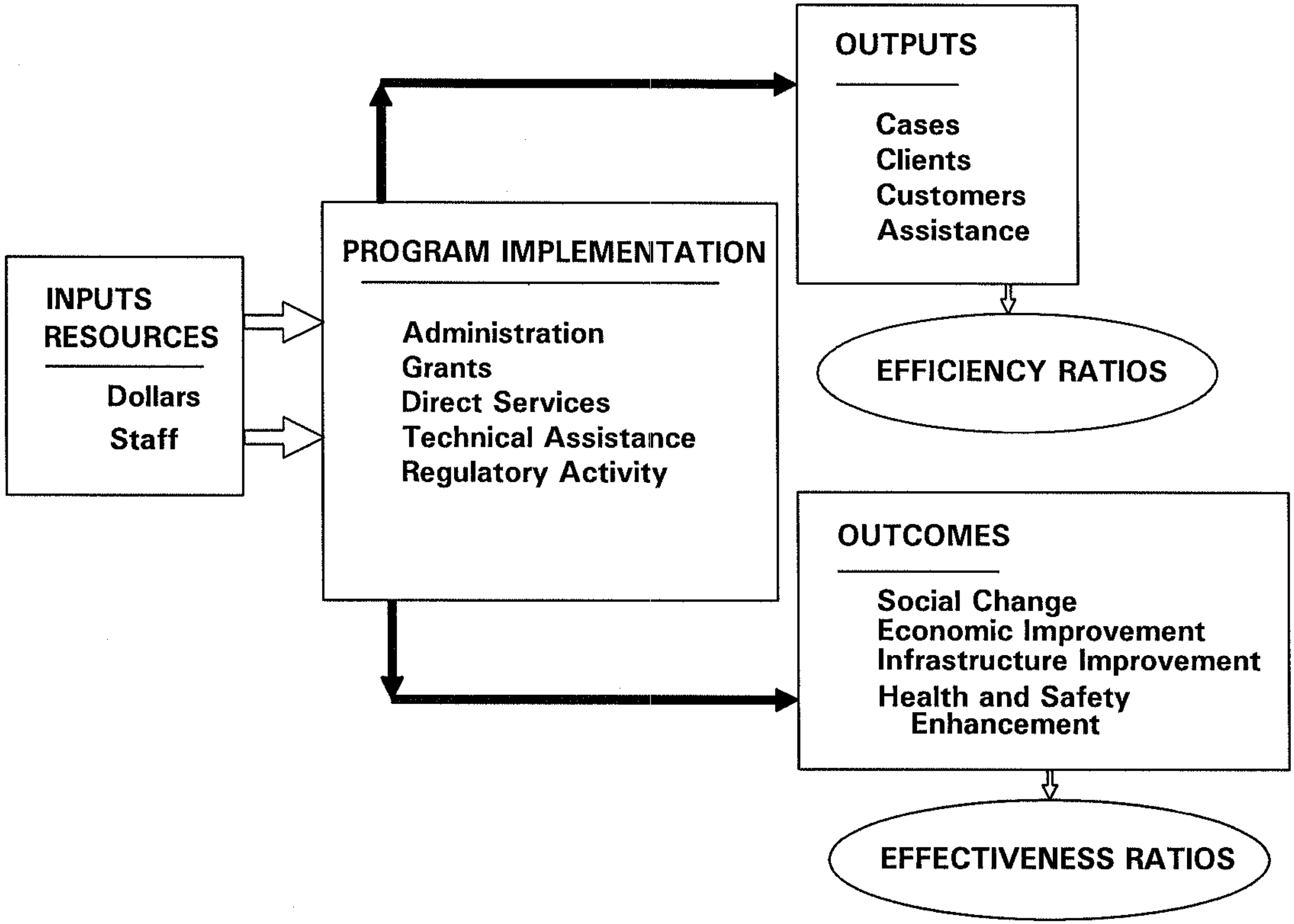
- **Output indicators:** These indicators report units produced and services provided by a program. They can be a measure of the amount of work accomplished. Numerous output indicators can be found in the Governor's Budget that is submitted to the Connecticut General Assembly each year. While they do provide a basis for determining how much a program is producing, they don't indicate if the program is effective in achieving its goals, or indicate whether the program is being operated efficiently. Examples of output indicators include the number of degrees awarded and student credit hours generated.

- **Outcome indicators:** These are designed to report the results or impact a service or program has on a client group or population. Outcomes can be a numeric indicator of the program results. Examples of outcome indicators include changes in students' test scores, retention/graduation rates, and employment and graduate study rates.

  Most importantly, when outcome measures are related to resources, they can provide important information to policy makers and the public about the cost of the results of program activities, thereby enabling them to consider the value of the service relative to its resource requirements.

  Designing outcome indicators and collecting the appropriate data to create the measures is difficult and requires an agency to devote significant time and money to this function. Often, program outcomes can only be determined over time, usually several years, and clients receiving services must be carefully tracked, even after they leave a program.

Figure 1. Performance Measures: The Process



- **Efficiency and cost effectiveness indicators:** These are defined as indicators that measure the cost per unit of output or outcomes. Such indicators are the cost to process a transaction, the cost of testing, or the ratio of students to faculty.

  Efficiency can be defined as the cost per unit of <u>output</u>.

  Effectiveness can be defined as the cost per unit of <u>outcome</u>.

  These also can represent productivity measures when input is related to output or input is related to outcomes. Productivity indexes can be created by comparing base year to current year indicators. This can be useful for comparing the effects of increasing or decreasing program funding.

- **Explanatory information:** This information covers program background material that might affect outcomes and outputs, and could include elements outside the agency's control, such as changes in appropriations.

These five indicators form the basis of a performance monitoring system by defining the types of measures needed to evaluate programs. However, the difficulty lies in the application of the measures. Many agencies do not have management information systems that can supply the data necessary to build the indicators.

Information Systems

Essential to any successful performance monitoring process is an agency's management information system. An accountability system needs access to the following sources of information:

1) detailed staffing information;
2) detailed financial information;
3) activity/workload data; and
4) availability of physical resources (e.g., number of computers, classrooms, etc.)

This data must exist in a usable form and be accessible to develop performance indicators and workload measures. The data base is needed to calculate such fundamental measures as units of service, cost per unit of service, time to process transactions, and staff resources per unit of service. The management information system of an agency must be able to: extract data from a variety of sources; combine or disaggregate data; and allow assembly of historical data for year to year comparisons. The ability to verify data entered into the system is also an important factor in ensuring its integrity.

Comparing indicators. Indicators should be used for a variety of comparisons with:

- year-to-year, or some other extended time frames;
- other higher education institutions;
- technically developed norms and standards; and
- indicator targets set in the previous year.

A management information system must be capable of analyzing variations among comparative indicators. Information and data that are used in the construction of indicators need to be verifiable and subject to standard audit procedures, including replicating samples and testing methodologies.

Assessment Systems in Other States

The Education Commission of the States (ECS) conducted a fifty-state survey of assessment activities in public higher education institutions in 1990. A few states are considered leaders in developing assessment systems in higher education, including Virginia, Tennessee, and New Jersey. Brief profiles of these state systems, derived from the 1990 ECS survey responses, are presented below.

New Jersey. Interest in the development of assessment measures initially arose from the New Jersey Board of Higher Education, in cooperation with the Department of Higher Education and various institutions. The first performance system, named the Basic Skills Assessment Program, began in 1977 in New Jersey and focused on student performance. Results are used to place new students in appropriate courses, measure statewide proficiencies of entering freshmen, and assess the effectiveness of remedial programs.

In 1985, the College Outcomes Evaluation Program (COEP) was created. The state has defined eight outcome cluster variables to be measured. Although there is a wide range of measures from student involvement and satisfaction with their educational experiences, to the research endeavors of the faculty, the most important component of COEP is General Intellectual Skills Assessment (GIS). This assessment instrument has no multiple choice questions but uses a series of academic tasks which tries to duplicate those skills expected by faculty of college students. Results from this test are not used to identify and place specific students, but rather to measure institutional effectiveness and assist in curriculum revision if necessary. Both statewide and locally defined outcomes are measured, and periodic reports provided to the public.

Tennessee. The legislature passed the Tennessee Challenge in 1989, which contained assessment initiatives embodied in a set of goals for all levels of public education. The legislation directed the Higher Education Commission to develop both short- and long-term quantifiable goals for higher education. Several benchmarks were used from assessment measures in place prior to the passage of the 1989 act. These included increasing average scores of students and graduates on standardized tests such as the ACT, SAT or GRE. Arising out of the 1989 legislation, however, was the decision to allocate a portion of the state's higher education appropriation based on student outcomes from the ACT-COMP test. However, there has been some concern expressed that it is unfair to allocate funds based on the results of a single test. Furthermore, Tennessee has had budget difficulties since the program was first initiated, which has negatively impacted the program's operations.

Virginia. The Virginia legislature in 1986 mandated state public colleges to create assessment programs to measure student performance. Guidelines were established by the State Council of Higher Education in Virginia (SCHEV) and included such items as:

- absolute measures of student learning, such as achievement tests;
- information on admissions, retention, graduation rates, job placement, and alumni surveys;
- faculty-developed assessment measures; and
- basic skills testing and evaluating the success of remediation.

The guidelines were flexible and allowed colleges to develop their own plans. A gubernatorial directive in May 1987 allowed institutions to qualify for incentive funding if an approved plan for assessing students was in place. By June 1987, all institutions had complied. Since the ECS survey was conducted in 1990, two reports from all institutions had been submitted. Though results have been encouraging, with a wide range of assessment activities taking place, Virginia has experienced severe state budget cutbacks that have affected the financial incentives the program was suppose to provide.

The University of Connecticut's *Program Planning and Evaluation Model*

The University of Connecticut has taken the lead in developing a model to assess faculty and program productivity. The university developed a method to assess and monitor its departments through the ***Model for Program Planning and Evaluation***[3]. The model is intended to appraise the status of the university in a rigorous, comprehensive, and accountable fashion. The model is based upon four key elements inherent in most performance monitoring systems. They are: 1) a comprehensive and uniform quantitative data base to serve as a foundation for qualitative judgements; 2) a guide for planning decisions and a method for measurement of the progress of academic department goals; 3) a comparison of individual academic unit goals to those of the university; and 4) increased accessibility of information upon which management decisions are made. The object of the model is to present information about academic programs in a quantitative as well as qualitative manner by identifying a set of assessment categories for teaching, scholarship and public service.

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[3] *Toward the 21st Century: Academic Program Planning, Evaluation and Goals*, Office of the Provost, The University of Connecticut, January 1993.

A brief history. Periodically, the university has produced planning documents which projected goals for a five- to ten-year period. Faced with producing a plan for the nineties, Tom Tighe, the provost of the university, along with a faculty committee, created a model that included the traditional goals and strategies, but added a component for measuring progress. The model, which was four years in the making, was not designed to evaluate the performance of individual faculty members, but rather to quantify the effectiveness of the university's scholarship, teaching, and service components, and the "usefulness" of academic programs and departments.

Broad scholarship and teaching goals were derived from references within the state's constitution and statutes. Article VIII, Section Two of the state constitution describes the university as one " which shall be dedicated to excellence in higher education." Connecticut General Statutes outline the university's teaching and research mission, including the granting of doctoral and masters degrees. The university also has a mission to public service and community outreach.

Specifically, the goals of scholarship, teaching and community outreach mean: 1) generating knowledge; 2) transmitting that knowledge to graduate and undergraduate students; and 3) applying what has been learned to bettering Connecticut and improving society at large. Functionally, the model is meant to measure the status of each academic unit's research, teaching, and service efforts. Additionally, resource allocation will be made easier by monitoring each unit's output.

Model development. In assembling the model, the university obtained data from eight other state universities which had planning and evaluation systems. The comparison schools were: Iowa, Massachusetts, Michigan, Minnesota, North Carolina, Rutgers, Washington and Wisconsin. There was significant variety in each assessment system, but the common portions were identified as scholarship, evaluation and resource allocation criteria, and frequent discussion meetings along with continual faculty involvement. The University of Connecticut's model differs from the other schools' approaches in that the administration wanted to: 1) use department profiles based upon quantitative data; 2) use the profiles for goal setting and planning as well as for evaluation and allocation; and 3) provide for an evolutionary model that could adjust to changes dictated by university and the community needs. In the past, evaluation and planning were often the outcome of a less formal process of qualitative judgments based primarily on precedent and short term needs.

Model operation. The model is designed to profile information about each academic program or unit in a simple but meaningful way. The model relies upon two classes of data to generate an academic unit's profile: *unit characteristics* (e.g. size of faculty, number of graduate and undergraduate majors, number of courses offered, and course enrollments) and *unit output* (described as "what it has accomplished in past year"). To generate a unit's profile, output data are combined with the unit's characteristics. A sample list of unit characteristics and output is set out Table 1.

Table 1. Unit Characteristic and Output Data	
Faculty and Staff Resources	**Instructional Loads**
tenured faculty tenure track faculty other faculty special payroll instructor special payroll, research and other support staff, professional and classified graduate assistants, research graduate assistants, teaching	majors in lower division courses non-majors in lower division courses majors in upper division courses non-majors in upper division courses faculty contact hours • lower division • upper division • graduate
Student Enrollment	**Budget Allocations and Expenditures**
lower division majors upper division majors full-time Masters students part-time Masters students full-time Doctoral students part-time Doctoral students	general fund tuition fund auxiliary services extension services external research external research federal, non-research private discretionary equipment
Degrees Awarded	
Bachelors degrees Masters degrees Doctoral degrees	

The unit characteristics and unit output are combined into a unit profile termed an ***evaluation matrix***. The evaluation matrix is based on four primary categories of information which are further divided into subcategories. The four main categories with their respective subdivisions are as follows:

- Centrality (relevance to a university role):
  1. Degree of centrality to all universities; and
  2. Degree of centrality to a university's state mandated mission, state needs and/or societal needs.
- Scholarship
  1. Creative productivity;
  2. Scholarly reputation; and
  3. External funding.
- Teaching:
  1. Undergraduate; and
  2. Graduate.
- Service
  1. to the university;
  2. the state and community; and
  3. nationally.

The categories in Table 1 are further divided into numerous subdimensions which are ultimately assigned quantitative values for the purposes of assessment and evaluation. The evaluation matrix along with the quantitative measures forms the basis of the performance evaluation system.

Each of these categories can be interpreted differently depending upon the academic unit under review. For example, in determining whether an academic unit is central to the university's role, such comparisons as the number of major state universities with similar programs or the recognition that a unit represents a rapidly growing discipline, would be important measures, even though the student load may not be as large as other academic programs.

Another example of a major performance category is scholarship, which is divided into three dimensions by the model: 1) creative productivity; 2) scholarly reputation; and 3) external funding. Creativity and scholarly reputation are measured by some of the examples shown in Table 2 and 3.

Table 2. Creative Productivity
Publications
Scholarly books or monographs, authored or edited
Textbooks
Articles in scholarly journals
Conference proceedings or presentations
Technical reports or manuals
Software packages
Patents
Book reviews
Extension bulletins
Other publications
Accomplishments in the Arts
Musical or dramatic performances
Art exhibitions
Musical compositions
Creative writings

In each of these areas, quantitative values are applied to measure the contribution each has to the unit's goals. This allows the university's administration to chart progress in meeting academic goals for specific areas such as undergraduate teaching or service to the state. By rating each area on a quantitative scale, the department's performance can be examined over time. It is expected that a unit's profiles will vary from year to year across many of the categories. It is the extent and nature of the variation that should serve as a point of discussion between the department and the university's administration.

The model is intended to produce annual reports that will assist the university and individual departments in meeting their goals and mission. While the model is just beginning to be implemented it does show promise as a valid evaluation and assessment tool for determining the productivity of educational resources.

Table 3. Subdimensions of Scholarly Reputation
Editorships or associate editorships of scholarly journals
Organization of national or international conferences
Officers of professional societies
Memberships on national or international peer review committees and panels
National or international awards and prizes
Honorary degrees
Invited national or international symposium or colloquium presentations
Consultancies in national clinics and workshops
Commissioned works of art, music or drama
Sales of major works of art, music or drama

CHAPTER II

FINDINGS AND RECOMMENDATIONS

History of assessment in Connecticut. In 1986, the Connecticut Board of Governors for Higher Education followed the national trend toward assessing institutions of higher education by adopting a *Strategic Plan for Higher Education.* The plan's purpose was to develop procedures for assessing institutional effectiveness by clearly identifying goals and objectives linked to their educational mission, measuring how effectively goals and objectives are achieved, and utilizing the results of assessment to further enhance teaching and learning.

An advisory committee was established to develop guidelines for a five-year assessment plan, which were approved in 1989. The guidelines set out seven areas to be covered:

1. General education;
2. Academic and program majors;
3. Basic skills testing, placement and remediation;
4. Retention;
5. Student development;
6. Follow-up on graduates; and
7. Transfer of credits.

However, these guidelines dealt exclusively with only student outcomes, with no measures of faculty productivity or administrative efficiency.

In 1993, four years after the guidelines were established, each public college and university submitted to the Board of Higher Education a five-year institutional assessment plan. These were compiled in a biennial report entitled *Strengthening Undergraduate Education through Institutional Assessment*, which outlined the progress made by the colleges and universities toward performance monitoring. The report found that while the institutions were undertaking serious assessment activities each was in varying stages of implementation. The report noted that several initiatives were in the early phases of development and that some institutions indicated that it was too early to report results. According to the report, resource constraints caused institutions to modify the scope of assessment activities and delay the implementation of others.

Mandating assessment. In response to delays occurring in the implementation of the measurement system formulated internally by the board of governors, Public Act 93-201 was passed in the 1993 legislative session mandating the Commissioner of Higher Education and the

Higher Education Coordinating Council[4] to "assure that each public institution of higher education implement a process of institutional assessment and continuous improvement based on *goals, objectives, and measurable outcomes* consistent with the mission of each institution." The act designated specific areas to be included in establishing assessment goals including:

- general education and academic program review and evaluation;
- basic skills testing, placement and remediation;
- admission rates, retention rates, minority enrollment, enrollment of persons with disabilities,student financial aid, student transfer and matriculation;
- student performance, attainment and development, including graduate follow-up;
- faculty and administrative productivity; and
- adequacy of core academic, student and library services and facilities.

The legislation added two important components that were missing from the original assessment system formulated by the Board of Governors for Higher Education -- faculty productivity measures and measures designed to assess the adequacy of services and facilities. The act also required each college and university to biennially report on the progress made in implementing assessment measures and improvements achieved as a result of the assessment. Reports were to be submitted to the commissioner of higher education and the education committee of the General Assembly.

In addition to requiring the establishment of a performance monitoring system, Public Act 93-201 repealed the requirement of a previous public act (91-154) that the Department of Higher Education prepare an annual profile of each public and private college in the state. These profiles, only published once in 1992, described each college's mission, listed degree programs offered, and provided information regarding admissions, accreditation, and assessment. Specific statistical information was provided on each college including retention rates, enrollment of minorities and disabled people, the number of financial aid recipients, graduation rates, and the number of transfer students from two-year to four-year colleges. However, a major limitation of the booklet was the lack of standardized accountability and performance measures to make comparisons across colleges.

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[4] The Higher Education Coordinating Council was established in 1992. The council is composed of the chairpersons of the boards of trustees and the chief executive officers of each constituent unit of the state system of higher education and the commissioners of higher education. Its purpose is to "identify, examine and implement savings in administrative functions carried out by the higher education system and its constituent units".

Rather than providing a document in which useful contrasts on services among institutions could be drawn, the booklet merely provided a simple profile of colleges in the state. It did not establish any baseline performance measures that would allow for the evaluation of progress toward achieving stated goals and objectives. After its publication, the usefulness of this directive was called into question since the information provided in the booklet could be found, more comprehensively, in traditional college book sources.

Implementation status of Public Act 93-301. The program review committee examined the implementation of this act as well as earlier assessment efforts by the institutions and the Board of Higher Education. The Higher Education Coordinating Council has appointed a 16-member "study group on accountability and productivity" representing the academic community. The group is charged with making recommendations to the Higher Education Coordinating Council on implementation of P.A. 93-201. The study group has been assigned the task of clarifying the objectives of public higher education, identifying who is being served and their needs, and defining the products of education. The goal of the group is to report to the council on the types of activities, procedures, and studies that would be necessary components of a comprehensive system of assessment.

According to the Department of Higher Education, the study group reported to the coordinating council in January 1994. The group brought forward suggestions to the council on various issues surrounding the creation of a performance monitoring system, who in turn, directed the group to expand its outlook and develop forums, focus groups, and surveys so that participation from stakeholders could be maximized. In addition, the council believed that by broadening the field of participators (various constituencies, students, legislators, the higher education community, and gubernatorial representatives) the validity of the process and any related output measures developed, would be enhanced.

In implementing the provisions of the act, the Department of Higher Education addressed the status of each of the areas identified under the act and determined the level of compliance among the various constituent units. In reviewing the accomplishments of the department, it is apparent that there are varying degrees of achievement in implementing the goals of P.A. 93-201. Factors that have impeded development of a monitoring system include the level of sophistication in data collection among units, as well as the commitment of each institution's leaders to the process and the value they place on creating such a system.

Other efforts. In addition to the Accountability and Productivity Group formed to develop an assessment system, a separate group -- the Program Measures Committee -- has also been established under the guidance of the Office of Policy and Management (OPM) to develop new program measures for the Governor's Budget. According to a draft memo that was given to the program review committee, the Program Measures Committee has put forth the following principles to govern their activity:

- outcome measures for higher education should focus on three primary mission areas -- instruction, research and public service;

- internal use measures should address other support areas (academic support, libraries, student services, institutional support, physical plant operations and scholarship aid);

- new outcome measures developed should replace existing measures reported in the Governor's Budget which are now ineffective; and

- other measures, including descriptive, input, output or efficiency, should be included as part of the narrative description of each of the major functional areas.

Program measures for each of the university systems are being developed for inclusion in the Governor's Budget, with some of the measures unique to a specific constituent unit, and others applicable to all of the public universities and colleges in the state. Information identified as necessary by the OPM-led committee to produce outcome and output measures is currently being collected by the constituent units and thus, would not take extraordinary efforts to compile.

Findings. It is unclear how the Program Measures Committee's work will aid in the development of a comprehensive performance monitoring system as outlined in Public Act 93-201. The Department of Higher Education's staff indicated that some of the measures developed may be incorporated into a more comprehensive assessment system, but it was too early to determine how they would be integrated. The program review committee found this parallel, yet uncoordinated, effort wasteful. In the program review committee's opinion, the performance measures developed by the Department of Higher Education through the work of the accountability group, the coordinating council, and the constituent units, should serve as the program measures found in the governor's budget.

The program review committee found that although performance monitoring systems are at varying stages of development among the constituent units, in general there have been serious delays in the establishment of a comprehensive performance monitoring system. Difficulty over the type of quantitative outcome and output measures to be used, establishing uniform definitions of those measures in order to ensure a common reporting format, as well as achieving consensus on the goals to be achieved and the usefulness of information have all contributed to the lack of progress.

A major problem identified by the committee for establishment of performance measures is the absence of a statewide system capable of storing and readily accessing information. The committee found that there was no systematic attempt at aggregating data from the various constituent units by the Department of Higher Education in an effort to compile, analyze, or compare constituent unit assessment results, and search for reasons why one institution may fare better than another in the various assessment areas identified under the act. There has also been a lack of effort to develop baseline output and outcome measures by which progress toward goals could be measured. It is difficult to imagine how programs could be improved or resources better allocated without this type of analysis being performed on an continual basis.

As part of this study, the program review committee staff wrote to each president of the Connecticut State University system, the 16 presidents of the Community-Technical College system and the president of Charter Oak College and gave them the opportunity to share any information or comments on the topic under review. In addition, a copy of Public Act 93-201 and the briefing paper presented to the committee in October were enclosed. Of the 21 presidents contacted, only four responded to the inquiry.

The lack of response seems to be indicative of the amount of interest and priority placed on developing an assessment system, particularly at the individual college level. In order for any performance monitoring system to be successful, commitment must come from within each of the institutions and must be considered equitable by those evaluated under it. Presidents and other top administrators need to foster a climate that encourages faculty to support the use of assessment information. Feedback from both the higher education community and the various constituents interested in the services provided is an important element needed to construct and operate a performance measurement system. Therefore, the program review committee recommends:

The Board of Trustees for the University of Connecticut, the Connecticut State University System and the Community-Technical College System shall establish a permanent performance monitoring workgroup composed of administrators, faculty, and students to develop appropriate performance measures, including outcome, output, and efficiency and effectiveness ratios, based on quantifiable criteria in three areas -- student achievement, faculty productivity and administrative efficiency. The goal of the group shall be to produce a working model for the evaluation of student achievement, faculty productivity, and administrative efficiency as required by Public Act 93-201. The working evaluation model for each constituent unit shall be submitted to the Board of Higher Education for approval.

The Board of Trustees for each system shall submit quarterly reports to the commissioner of the Department of Higher Education and the Higher Education Coordinating Council, summarizing the progress towards meeting the legislative goals and report annually to the Committee on Education and the Legislative Program Review and Investigations Committee of the General Assembly.

From the reports submitted by the Boards of Trustees, the commissioner of the Department of Higher Education, in conjunction with the Higher Education Coordinating Council, shall define a core set of performance measures, together with a common set of reporting standards, to construct performance measurement models. Upon the development of those measures they shall be incorporated by the Office of Policy and Management into the measures developed pursuant to section 4-67m of the Connecticut General Statutes. The models shall allow the Department of Higher Education to

systematically evaluate and compare the universities in the Connecticut State University system and the colleges within the Community-Technical College system. This information shall be annually compiled and reported annually and made available to the public.

Meaningful performance measures need to be created that are part of an ongoing evaluation research effort linked to an agency's mission and goals. The measures must come from within the agencies responsible for implementing programs. However, the measures need to be carefully constructed and reviewed by outside experts to verify their quality, integrity, and usefulness.

Performance models need to be developed that provide outcome information on the three core areas (i.e. student achievement, faculty productivity, administrative efficiency) of assessment in higher education. The University of Connecticut has developed a comprehensive model that attempts to identify and weigh the variables that affect higher education performance and to instill accountability into the process. Although this model may be too complex for the state university system and community-technical colleges, it does provide a solid foundation that could be modified and used to accommodate their needs.

Once valid measures have been developed and reported, they must be available to the widest audience possible. While some measures will only be useful for the internal management of an agency, others will be important for policymakers and the public. Requiring the Office of Policy and Management to incorporate the performance measures developed into the governor's budget adds credibility to the assessment process. One of the primary goals in assessing outcomes in higher education is to assure the public they are receiving a good return on their tax dollars. A report card based on a performance measurement system developed by the Department of Higher Education would infuse accountability into the higher education system and allow the public to make genuine comparisons among similar institutions.

APPENDIX A

AGENCY RESPONSE

TESTIMONY BEFORE THE PROGRAM REVIEW AND INVESTIGATIONS COMMITTEE
March 8, 1994
Commissioner Andrew G. De Rocco
Department of Higher Education

HOUSE BILL 5646 AN ACT CONCERNING PERFORMANCE MONITORING IN HIGHER EDUCATION

In my two years as Commissioner of Connecticut's system of higher education, I have been committed to ensuring that Connecticut's public colleges and universities are providing high quality programs and services to the citizens of the state of Connecticut and that in doing so are making cost-effective use of the resources available to them. In providing these programs and services, it is vital that we have a mechanism to evaluate, demonstrate, and improve the accountability and productivity of Connecticut's public colleges and universities, their faculties and their students. We have made significant progress in this area through the leadership of the Higher Education Coordinating Council.

The Coordinating Council, on its own initiative and in response to Public Act 93-201, created a study group to look at issues of accountability and productivity in higher education. The group is comprised of membership from the constituent units as well as Department of Higher Education staff and is working towards providing the Council with specific recommendations that will enhance accountability and productivity. The group is also being responsive to the provisions of PA 93-210. As you are aware, this legislation requires the Commissioner, in consultation with the Coordinating Council, to assure that each public college implements a process of institutional assessment and continuous improvement, based on goals and measurable results consistent with its mission. We are currently moving along with this process and are very encouraged with the preliminary reports. The first report is due to the General Assembly next year.

Besides this important initiative, the Department is also leading a number of other important activities in the area of assessment. These include: biennial formula reviews which look at the adequacy of core instructional, library and physical plant needs support; academic planning efforts; facility master planning efforts and five-year facility plans which serve as blueprints for the physical development of institutions to achieve stated goals; institutional licensing and accreditation reviews; program reviews and approvals; and the Board of Governor's strategic planning process.

While we have done much in the past two years in the area of assessment, we recognize that there still is much to do. Let me now address the legislation before you today, House Bill 5646. This bill provides some positive steps toward a goal we all share: a more productive and accountable system of higher education in Connecticut. Specifically the legislation:

- Provides some consistency in terms of the performance measures to be developed at the constituent unit level. PA 93-210 was not constituent unit-based with the institution being responsible for developing the assessment process. This does not necessarily guarantee consistency across the entire system.

- Provides the Department of Higher Education with a leadership role in the development of consistent performance monitoring systems.

- Recognizes the importance of having standing committees on performance at the unit level which could work closely with the accountability and productivity study group.

While we are supportive of the concepts raised in this legislation, we have some concerns about certain of its provisions. Specifically:

- There appears to be an inconsistency with other legislation regarding who is responsible for developing the performance standards. PA 93-201 placed the responsibility on the institution and recognized that, in order to be effective, a continuous assessment process must be developed close to those who have the responsibility and the authority to effect change.

- Any performance monitoring standards should be applied to all public institutions in the system and, where appropriate, should focus on areas omitted and PA 93-201.

- The legislation does not recognize the importance of the boards of trustees or the Board of Governors in the process.

- The legislation does not address the major issue of the expectations, goals and objectives for the system from higher education's external constituencies. The Accountability and Productivity study group has recognized the importance of having this participation at the beginning of the assessment development process.

- There are no incentives or disincentives built into the process. To be truly effective, the performance monitoring system should linked in some manner to the budget allocation, administrative efficiency and program quality.

- The bill does not define the terms faculty productivity, administrative efficiency and student achievement. It is necessary to have uniformly acceptable standards of measuring performance to be successful.

We stand ready to work with members of the Committee and your staff in addressing these issues as the legislation moves through the process.